

**AUTOMATICALLY DEFORMABLE
NOZZLE REGULATOR
FOR USE IN A VENTURI PUMP**

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ABSTRACT OF THE DISCLOSURE

10 The automatically deformable nozzle regulator described herein is for use
in a venturi pump. The automatically deformable nozzle regulator automatically
adjusts its output area as needed to provide an increased suction force at a
venturi pump inlet. The nozzle regulator includes an outer tubular cylinder and
an inner tubular cylinder, concentrically arranged, and an inlet section join the
two cylinders at one end. The nozzle regulator is constructed of a flexible
15 material, such that when a constricting force is applied an output area of the
nozzle regulator is decreased. Fluid backpressure at the nozzle regulator
caused by obstructions at the pump inlet or the head at the outlet cause
backpressure and the resultant constricting force. Because the nozzle is
deformable, the output area is reduced, thereby increasing suction force at the
20 inlet to remove the obstruction and increased velocity at the outlet to increase the
head at the outlet.